

AMENDMENT UNDER 37 CFR § 1.111
Application No. 09/351,147

AMENDED CLAIMS:

1. (Currently Amended) A process for converting a C₄+ naphtha hydrocarbon feed to a product which includes light olefins and aromatics, comprising:
contacting said feed with a catalyst comprising ZSM-5, ZSM-11 or combinations thereof treated with a phosphorus-containing compound, and a substantially inert matrix material, wherein said catalyst contains less than 20 wt% of active matrix material and has an initial silica/alumina molar ratio ~~less than about 70~~ between about 5 and about 30, said contacting being effected under conditions to produce a product containing light olefins and aromatics.
2. (Original) The process of Claim 1 wherein the C₄+ naphtha hydrocarbon feed includes feeds having boiling point ranges from about 80°F (27°C) up to about 430°F (221°C).
3. (Original) The process of Claim 1 wherein the zeolite makes up about 5 to 75 wt.% of the catalyst, the substantially inert matrix material makes up about 25 to about 95 wt.% of the catalyst and phosphorus is present in amount of about 0.5 to 10 wt.% of the catalyst.
4. (Cancelled)
5. (Previously Presented) The process of Claim 1 wherein the substantially inert matrix material comprises silica, clay or mixtures thereof.
6. (Original) The process of Claim 1 wherein said conditions comprise a temperature of from about 950°F (510°C) up to about 1300°F (704.4°C), a hydrocarbon partial pressure from about 2 to about 115 psia (0.1 to about 8 bar), a catalyst/hydrocarbon feed weight ratio from about 0.01 to about 30, and a WHSV from about 1 to about 20 hr⁻¹.

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7. (Original) The process of Claim 1 wherein the product comprises ethylene and propylene, with a $C_2=C_3$ wt. ratio greater than 0.39, and increased amounts of toluene and xylene relative to the hydrocarbon feed.
8. (Original) The process of Claim 1 further comprising co-feeding steam under conversion conditions in an amount from about 5 to about 30 wt % of the steam/feed mixture.
9. (Original) The process of Claim 8 wherein the product comprises ethylene and propylene, with a $C_2=C_3$ wt. ratio greater than about 0.6, and increased amounts of toluene and xylene relative to the hydrocarbon feed.
10. (Original) The process of Claim 1 wherein the light olefins in the product comprise ethylene plus propylene in an amount greater than about 25 wt.% based on total product.